Record Nr. UNINA9910789411003321 Theory of randomized search heuristics [[electronic resource]]: **Titolo** foundations and recent developments / / editors, Anne Auger, Benjamin Doerr Hackensack, N.J., : World Scientific, 2011 Pubbl/distr/stampa **ISBN** 1-283-14828-5 9786613148285 981-4282-67-7 Descrizione fisica 1 online resource (370 p.) Collana Series on theoretical computer science, , 1793-849X;; v. 1 Altri autori (Persone) AugerAnne DoerrBenjamin Disciplina 005.1 153.4/3 Soggetti Algorithms Heuristic Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Preface; Contents; 1. Analyzing Randomized Search Heuristics: Tools from Probability Theory Benjamin Doerr; 2. Runtime Analysis of Evolutionary Algorithms for Discrete Optimization Peter S. Oliveto and Xin Yao; 3. Evolutionary Computation in Combinatorial Optimization Daniel Johannsen; 4. Theoretical Aspects of Evolutionary Multiobjective Optimization Dimo Brockho: 5. Memetic Evolutionary Algorithms Dirk Sudholt; 6. Simulated Annealing Thomas Jansen; 7. Theory of Particle Swarm Optimization Carsten Witt; 8. Ant Colony Optimization: Recent Developments in Theoretical Analysis Walter J. Gutjahr 9. A "No Free Lunch" Tutorial: Sharpened and Focused No Free Lunch Darrell Whitley and Jonathan Rowe10. Theory of Evolution Strategies: A New Perspective Anne Auger and Nikolaus Hansen; 11. Lower Bounds for Evolution Strategies Olivier Teytaud; Subject Index Sommario/riassunto Randomized search heuristics such as evolutionary algorithms, genetic algorithms, evolution strategies, ant colony and particle swarm optimization turn out to be highly successful for optimization in

practice. The theory of randomized search heuristics, which has been

growing rapidly in the last five years, also attempts to explain the success of the methods in practical applications. This book covers both classical results and the most recent theoretical developments in the field of randomized search heuristics such as runtime analysis, drift analysis and convergence. Each chapter of this boo